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**THE 2006 AMENDMENTS TO THE RULES OF CIVIL
PROCEDURE: ACCESSIBLE AND INACCESSIBLE ELECTRONIC
INFORMATION STORAGE DEVICES, WHY PARTIES SHOULD
STORE ELECTRONIC INFORMATION IN ACCESSIBLE FORMATS**

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I. INTRODUCTION

[1] Discovery jurisprudence is a cornerstone of civil litigation in the United States. The Federal Rules of Civil Procedure, as adopted in 1938, introduced a broad discovery process, which was not a previously accepted practice.¹ The Federal Rules of Civil Procedure have been revised several times since 1938, reflecting the evolution of society. However, prior to 2006, 1970 was the last time the discovery rules were amended to take into account changes in information technology.² In the last thirty-seven years, technological advances in electronic storage and communication have changed the way people live and how business is conducted, beyond what could have been imagined in 1970. At that time, the drafters of the amendments could not have predicted the ubiquity of the personal computer and the amount of information it could store. Even in the 1980's, when a personal computer with a twenty megabyte storage

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¹ A. BENJAMIN SPENCER, *ACING CIVIL PROCEDURE* 163 (2005).

² Alfred W. Cortese, Jr., *Proposed Amendments to the Federal Civil Rules Strike a Healthy Balance: How Will the Proposed E-discovery Rules Influence Your Practice*, 72 DEF. COUNS. J. 354, 356 (Oct. 2005).

capacity was considered large,³ people could not have imagined how developed computer storage would become. Yet in 2006, the average amount of storage on desktop computers shipped was 109 gigabytes,⁴ which is over 5,000 times greater than computers of the 1980's and enough room to store a library floor of academic journals.⁵

[2] On December 1, 2006, amendments to the Federal Rules of Civil Procedure (Amendments) relating to electronically stored information were adopted by federal courts.⁶ Changes were made to Rules 5, 16, 26, 33, 34, 37 and 45.⁷ These changes were “designed to alleviate the burden, expense and uncertainty that resulted from the application of traditional discovery principles in the electronic age.”⁸

[3] Despite the changes, the 2006 Amendments still leave many questions unanswered with regard to cost-shifting and the accessibility of data. Although yet to be determined, the Amendments potentially provide a loophole for parties to store electronic information on inaccessible formats and then force courts to utilize a cost-shifting analysis to see if the requesting party should be responsible for some of the production costs.

[4] This article discusses how courts treated accessible and inaccessible electronic information prior to the Amendments, and the issues courts will deal with regarding electronic information storage in the future. Part II examines the pre-amendment language and scope of Rules 26 and 34. Part III looks at how courts dealt with electronically stored information prior to the Amendments. Part IV looks at the changes to Rules 26 and 34. Finally, part V looks at the Amendments in light of improved technology and the potential consequences.

³ Answers.com, <http://www.answers.com/topic/hard-disk> (last visited Mar. 3, 2006).

⁴ Kimberly S. Johnson, *Remember These? Floppy Disks Are History. Now the Sky Is the Limit on Storage*, DENV. POST, Aug. 27, 2006, at K01.

⁵ John Baez, *Information*, <http://math.ucr.edu/home/baez/information.html> (last visited March. 19, 2007).

⁶ Greg Farrell, *If There Could Be a Case, Then Don't Delete That E-mail: New Rules Protect Data in the Event of Legal Action*, USA TODAY, Dec. 1, 2006, at 5B.

⁷ FED R. CIV. P. 5, 16, 26, 33, 34, 37, 45.

⁸ Michael R. Nelson & Mark H. Rosenberg, *A Duty Everlasting: The Perils of Applying Traditional Doctrines of Spoliation to Electronic Discovery*, 12 RICH. J.L. & TECH. 14, 14 (2006).

II. RULE 26 AND 34 PRIOR TO THE AMENDMENTS

[5] Prior to the Amendments, no Federal Rule specifically addressed electronically stored information. As a result, courts were required to adapt the existing rules to solve issues related to electronic information. Thus, one must examine which Federal Rules courts used to address electronically stored information, and how these cases influenced the passage of the Amendments.

[6] Under Rule 26, parties may discover any material “regarding any matter, not privileged, that is relevant to the claim or defense of any party.”⁹ Relevant information does not have to be admissible at trial, and material is discoverable as long as it appears reasonably calculated to lead to the discovery of admissible evidence.¹⁰

[7] Prior to the Amendments, courts relied on Rules 26(a)(1)(B), 26(a)(2)(B) and 34 to determine how to evaluate electronically stored information in the context of discovery requests. Rule 26(a)(1)(B) required the initial disclosure of all “data compilations,” and courts interpreted this language to cover electronic evidence.¹¹ In addition, Rule 26 (a)(2)(B) required that if a party used an expert at trial, that party must disclose “the data or other information considered by the witness in forming the opinions.”¹² Both these duties were mandatory and were to be made without the opposing party asking for this information.¹³

[8] In addition, Rule 26 (b)(2)(C)(iii) imposed limitations on the scope of discovery if “the burden or expense of the proposed discovery outweighs its likely benefit, taking into account the needs of the case, the amount in controversy, the parties’ resources, the importance of the issues at stake in the litigation, and the importance of the proposed discovery in resolving the issues.”¹⁴ Further, Rule 34(a) stated that any party could serve on any other party a request to produce other data compilations “from which

⁹ FED R. CIV. P. 26(b)(1).

¹⁰ *Id.*

¹¹ *E.g.*, *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 317 (S.D.N.Y. 2003) (quoting *Rowe Entm’t v. William Morris Agency, Inc.*, 205 F.R.D. 421, 428 (S.D.N.Y. 2002)).

¹² FED. R. CIV. P. 26(a)(2)(B).

¹³ *Id.*

¹⁴ FED. R. CIV. P. 26(b)(2)(C)(iii).

information can be obtained, translated, if necessary, by the respondent into reasonably usable form . . . within the scope of Rule 26(b).”¹⁵ Courts relied on the aforementioned Federal Rules because they had no other option; parties increasingly stored discoverable information in electronic formats and continued to debate on how to produce this information. Because the characteristics of electronic information, however, are very different from conventional information, the Rules proved inadequate to provide proper guidance to both courts and litigants.

A) ELECTRONIC INFORMATION VS. CONVENTIONAL INFORMATION

[9] Generally, the producing party bears the financial responsibility for this discovery production.¹⁶ Rule 26 was originally promulgated long before the advent of widespread digital storage.¹⁷ As a result the rule did not, and could not, take into account how different electronic information is from conventional paper based information.

B) VOLUME

[10] The most significant difference between conventional media, such as writing or images on paper, and electronically stored information is that electronic information is much more voluminous.¹⁸ Computers constitute our primary communication today, and in many cases replace telephones, postal mail and face to face meetings.¹⁹ Additionally, saving electronic information is far easier than conventional information. A computer user can save information by doing nothing at all or, in a worst case scenario, by clicking the mouse a few times. Once the information is stored, it can

¹⁵ FED. R. CIV. P. 34(a).

¹⁶ See *Oppenheimer Fund, Inc. v. Sanders*, 437 U.S. 340 (1978) (holding that the party responding to a discovery request must pay costs of identifying members of a class).

¹⁷ Craig Ball, *Hitting the High Points of the New EDD Rules*, (Dec. 27, 2006), <http://www.law.com/jsp/article.jsp?id=1167214007908> (“The last time the Federal Rules of Civil Procedure were amended to deal with electronic evidence, eight-track tapes were the hot technology, the Internet and cell phones were the stuff of science fiction and computers were room-sized behemoths owned by corporations, universities and governments”); see also Cortese, *supra* note 2, at 1.

¹⁸ Kenneth J. Withers, *Electronically Stored Information: The December 2006 Amendments to the Federal Rules of Civil Procedure*, 4 NW. J. TECH. & INTELL. PROP. 171, 173 (2006).

¹⁹ *Id.* at 174.

be kept indefinitely. As a result of the ease of storage, Securities and Exchange Commission regulations and other government edicts have forced businesses to retain e-mails and electronic documents longer than ever before.²⁰

[11] Unlike conventional information, electronic information defies deletion. When an electronic file is deleted, it “does little more than change the name and eliminate reference to it in the operating system’s list of active files.”²¹ Until a computer writes over a deleted file, the file may be recovered by searching the disk itself rather than the disk’s directory. “Not only can the deleted file be easily recovered,” but this deletion does nothing for the numerous copies existing elsewhere on the system, the network, or on backup devices.²² Deleted data may also exist on backup tapes or similar data because it was backed up before the deleted data was written over.²³

C) ACCESSIBILITY

[12] Unlike conventional information, which is capable of being read and understood by humans, electronically stored information must be presented in an intelligible format by computers, operating systems, and application hardware.²⁴ Electronic information is accessible only if the appropriate technology is readily available to render the electronically stored information intelligible.²⁵ Inaccessible electronic information, while technically intelligible, is only really understandable with computers, operating systems, and software not available in everyday business environments.²⁶ Furthermore, this conversion of inaccessible electronic information to an intelligible format can be quite expensive.²⁷

²⁰ *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 314 (S.D.N.Y. 2003); Charles Forelle, *Digital Pack Rats: As Need for Data Storage Grows, An Industry Gets a Big Upgrade - With Stuff Easier to Hoard, Sector Sees Wave of Deals and Attracts Unlikely Fans - Keeping Tabs on Toll Collectors*, WALL ST. J., Oct. 14, 2005, at A1.

²¹ Withers, *supra* note 18, at 174.

²² *Id.*

²³ *Zubulake*, 217 F.R.D. at 314.

²⁴ Withers, *supra* note 18, at 176.

²⁵ *Id.*

²⁶ *Id.*

²⁷ *See Rowe Entm't, Inc. v. William Morris Agency, Inc.*, 205 F.R.D. 421, 427-29 (S.D.N.Y. 2002).

III. COURTS STRUGGLE WITH ELECTRONIC INFORMATION PRIOR TO THE AMENDMENTS

A) IN RE: BRAND NAME PRESCRIPTION DRUGS ANTITRUST LITIGATION

[13] A number of cases prior to the 2006 Amendments helped provide guidelines and frame the debate over what changes to the Rules, if any, were needed to address electronic discovery. One of the earliest cases dealing with the production of electronically stored information was the 1995 case *In re: Brand Name Prescription Drugs Antitrust Litigation*.²⁸ The plaintiffs filed a Motion to Compel to force the defendant to produce responsive e-mails, which, in turn, would have cost the defendant \$50,000 to \$70,000 to produce.²⁹ The court invoked Rules 26(b) and 34 of the Federal Rules of Civil Procedure and agreed with the plaintiffs that the defendant's e-mails were "discoverable under the same rules that pertain to tangible, written materials."³⁰ Further, the court held the plaintiffs should not be forced to bear a burden caused by the defendant's choice of electronic storage.³¹ Thus, the defendant was responsible for the costs of retrieving, formatting, and electronically manipulating e-mails. However, the court did make the plaintiffs narrow the data requested to be less time consuming and burdensome.³² Therefore, *In re: Brand Name Prescription Drugs Antitrust Litigation* followed the traditional legal principle that the producing party should pay production costs, and courts should refrain from using a cost-shifting analysis.

B) MCPEEK V. ASHCROFT

[14] In the 2001 case of *McPeek v. Ashcroft*, the District of Columbia District Court recognized that a plaintiff could "beat his opponent into settlement" if the cost of electronic production was more than the amount sued upon.³³ Because of this, the court utilized the "market" and "marginal utility" economic approaches to determine what cost, if any, the

²⁸ *In Re: Brand Name Prescription Drugs Antitrust Litig.*, No. 94C897, 1995 U.S. Dist. LEXIS 8281 (N.D. Ill. June 15, 1995).

²⁹ *Id.* at *1-5.

³⁰ *Id.* at *1-2.

³¹ *Id.* at *6.

³² *Id.* at *8.

³³ *McPeek v. Ashcroft*, 202 F.R.D. 31, 34 (D.D.C. 2001).

requesting party should bear. The “market” approach requires the requesting party to pay for the production of electronic discovery requests. The court reasoned this approach would assure narrow discovery requests, because a requesting party would not pay for what it does not need.³⁴ On the other hand, the “marginal utility” approach reasoned that the more likely it was for the backup source of information (backup tape) to contain information relevant to a claim or defense, the fairer it was to have the producing party bear the expense.³⁵

[15] The court in *McPeck* ordered the defendant to sample its backup tapes in order to determine if shifting a portion of the production costs to the requesting plaintiff was fair.³⁶ The court wanted to determine if the plaintiff’s request was sufficiently narrow and contained enough relevant information to shift some of the costs. If the plaintiff’s request was too broad and was merely fishing for a needle in a haystack, the court stated the plaintiff would have to bear some of the costs of production.³⁷

[16] The holding in *McPeck* was a harbinger for cost-shifting in the context of electronic discovery. It was the first instance where a court strayed from the traditional “producer pays” rule in the context of electronic discovery. Although the ‘market’ and ‘marginal utility’ approaches have not achieved national acceptance, they have been cited and followed in some jurisdictions.³⁸

C) ROWE ENTERTAINMENT, INC. V. WILLIAM MORRIS AGENCY, INC.

[17] In 2002, the Court for the Southern District of New York in *Rowe Entertainment, Inc. v. William Morris Agency, Inc.*, rejected a bright line test for cost-shifting in electronic discovery. As an alternative, the court utilized a balancing test.³⁹ The court held a producing party should not automatically bear the cost of production because it chose an electronic

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Id.* at 34-35.

³⁷ *Id.* at 34.

³⁸ Sonia Salinas, *Developments in the Law: IV. Electronic Discovery and Cost Shifting: Who Foots the Bill?*, 38 LOY. L.A. L. REV. 1639, 1646 (Summer 2005).

³⁹ *See Rowe Entm’t v. William Morris Agency, Inc.*, 205 F.R.D. 421, 429 (S.D.N.Y. 2002).

storage method. Yet, the court also stated that the requesting party should not pay for the cost of production because it “flies in the face” of the well established principal that the producing party pays for production. The court opined that shifting costs would result in abandonment of valid claims by litigants too poor to pay for necessary discovery.⁴⁰ To determine the correct result, the court enumerated eight equal factors to consider in the cost-shifting analysis: (1) specificity of the request; (2) likelihood of a successful search; (3) the availability from other sources; (4) the purposes of retention; (5) the benefit to the parties; (6) the total costs; (7) the ability of each party to control costs; and (8) the parties' resources.⁴¹ In applying the eight factors to the facts of the case, the court upheld the magistrate's order to shift some of the costs to the requesting party.⁴²

D) ZUBULAKE V. UBS WARBURG LLC (ZUBULAKE I & III)

[18] The 2003 Southern District of New York case, *Zubulake v. UBS Warburg LLC (Zubulake I)*, is widely regarded as the leading case authority regarding discovery of electronically stored information.⁴³ In evaluating the nature of electronic data, the court classified electronic information as either easily accessible (readily usable) or inaccessible (not readily usable). It held that cost-shifting should only be considered when electronic data is stored in a relatively inaccessible format, such as backup tape, or when the data is erased, fragmented, or damaged.⁴⁴ The *Zubulake I* court rejected the eight factors promulgated in *Rowe* because the factors did not mention the amount in controversy, or the importance of the issues at stake in the litigation.⁴⁵ Additionally, the court rejected the importance that *Rowe* placed on “why” the responding party maintained the requested data. The *Zubulake I* court believed that whether the data was kept for business purposes or disaster recovery did not affect its accessibility.⁴⁶

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² *Id.* at 433.

⁴³ *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309 (S.D.N.Y. 2003) (*Zubulake I*).

⁴⁴ *Id.* at 319.

⁴⁵ *Id.* at 321-22.

⁴⁶ *Id.* at 321.

[19] The court in *Zubulake I* modified the *Rowe* factors, and stipulated a seven factor test to determine if cost-shifting to retrieve inaccessible data was proper.⁴⁷ The factors were: (1) the extent to which the request is specifically tailored to discover relevant information; (2) the availability of such information from other sources; (3) the total cost of production, compared to the amount in controversy; (4) the total cost of production, compared to the resources available to each party; (5) the relative ability of each party to control costs and its incentive to do so; (6) the importance of the issues at stake in the litigation; and (7) the relative benefits to the parties of obtaining the information.⁴⁸

[20] Factors one and two represent the “marginal utility” of the request articulated in *McPeck*, and should be given the most weight.⁴⁹ Factors three, four and five address how expensive the production will be and “who can handle the expense.”⁵⁰ Factor six will rarely come into play. Finally, factor seven is the least important, because the response to a discovery request generally benefits the requesting party.⁵¹

[21] The court in *Zubulake I* held that all accessible data was the producing party’s responsibility.⁵² Regarding inaccessible data, the court ordered the producing party to restore and produce relevant documents from a small sample of the requested backup tapes. The court further held that after this process, the court could apply the seven aforementioned factors to conduct the cost-shifting analysis.⁵³

[22] In subsequent application, the court in *Zubulake v. UBS Warburg (Zubulake III)* applied the seven factors and shifted twenty-five percent of the cost of producing inaccessible e-mails to the requesting plaintiff.⁵⁴ The court found cost-shifting appropriate because while the relevant information was only available on defendant’s backup tapes, the plaintiff

⁴⁷ *Id.* at 322.

⁴⁸ *Id.*

⁴⁹ *Zubulake I*, 217 F.R.D. at 323.

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.* at 324.

⁵³ *Id.*

⁵⁴ *Zubulake v. UBS Warburg LLC*, 216 F.R.D. 280, 289 (S.D.N.Y. 2003) (*Zubulake III*).

could not show the tapes contained indispensable evidence.⁵⁵ Thus, the court shifted the cost of production based on “judgment and fairness rather than a mathematical consequence of the seven factors.”⁵⁶

[23] One of the most significant results of the *Zubulake* line of cases was the classification in *Zubulake I* of accessible and inaccessible information.⁵⁷ These cases held electronic information is either accessible or inaccessible due to the media on which it is stored. Five commonly used storage categories were enumerated based on the accessibility of data: three accessible media devices and two inaccessible media devices.

1) ACCESSIBLE DATA

[24] Accessible electronic information is stored in a readily usable format.⁵⁸ *Zubulake I* considered online data, near-line data, and offline storage/archives accessible data. The court found online data to include a computer’s hard drive, where “access frequency is high and the required access is very fast.” This data is used in the “active stages of electronic records . . . when [data] is being created or received and processed.”⁵⁹

[25] The court found near-line data to include optical disks and magnetic tape using multiple read/write devices to store and retrieve records. Access speeds can range from as low as milliseconds if using a read device, “to 10-30 seconds for optical disk technology, and between 20-120 seconds for sequentially searched media such as magnetic tape.”⁶⁰ Finally, the court found offline storage/archives to involve manual intervention which is substantially slower than the aforementioned storage possibilities.

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 318-20 (S.D.N.Y. 2003) (“[W]hether production of documents is unduly burdensome or expensive turns primarily on whether it is kept in an *accessible* or *inaccessible* format (a distinction that corresponds closely to the expense of production).”).

⁵⁸ *Id.* at 320.

⁵⁹ *Id.* at 318 (citing Cohasset Associates, Inc., WHITE PAPER: TRUSTWORTHY STORAGE AND MANAGEMENT OF ELECTRONIC RECORDS, THE ROLE OF OPTICAL STORAGE TECHNOLOGY 10 (April 2003), http://www.osta.org/technology/pdf/whitepapers/Trustworthy_Optical%20Storage.pdf (last visited March 19, 2007)).

⁶⁰ *Id.* at 318-19.

Access to data may take minutes, hours or days depending on the “access-effectiveness” of the storage facility.⁶¹

2) INACCESSIBLE DATA

[26] Inaccessible data must be transformed from its current, unusable, state to be viewed and used in an intelligible format. *Zubulake I* considered backup tapes and erased, fragmented or damaged data inaccessible data.⁶² Backup tape drives read data from and writes it onto tape. Unlike accessible data, backup tapes are sequential access devices. Contrary to random access devices, sequential devices have to be read in the order in which the information was saved.⁶³ If one chooses to read document K, the drive must first pass points A through J. Thus, this can be quite time consuming. Restoration is also needed to read the stored information, causing further expense.⁶⁴

[27] Tape backup is the most common long-term electronic information storage device. Tape backup can be done at any incremental period.

Grandfather-father-son is probably the most common rotation scheme. The grandfather backup is essentially a monthly full backup that is stored off-site, the father is a weekly full backup that is kept on-site (eventually moved off-site or recycled), and the son is a daily incremental backup that is kept on-site (possibly moved off-site along with its accompanying father or recycled).⁶⁵

[28] Daily tape backup requires a lot of tape, but enables easy restoration because the process only requires a single tape to retrieve data.⁶⁶ Because

⁶¹ *Id.* at 319.

⁶² *Id.* at 319-20.

⁶³ *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 319 (S.D.N.Y. 2003). *See also* Sequential Access, WEBOPEDIA, http://www.webopedia.com/TERM/S/sequential_access.html (last visited Feb. 17, 2007).

⁶⁴ *See Zubulake*, 217 F.R.D at 320 (stating that the cost of restoration is significant compared to the value of the litigation).

⁶⁵ Matthew D. Sarrel, *Backup Methods and Rotation Schemes*, PCMAG.COM, Feb. 21, 2003, <http://www.pcmag.com/article2/0,1895,899680,00.asp>.

⁶⁶ *Id.*

the full tape must be restored before data is retrieved, the longer the period of time stored on one tape, the greater the time required for recovering the data.⁶⁷

[29] Backup tapes have both problems and limitations. One problem is that the process is not entirely automated. No matter what the time interval is, one must schedule backups and physically insert tapes into the machine.⁶⁸ Tapes can also be unreliable if tape drive heads are not clean, or tapes are stored in less than ideal conditions.⁶⁹ Further, backup tape restoration is lengthy and expensive. “Because each tape . . . [is] a snapshot of one server’s hard drive [at a given time], . . . each server . . . must be restored separately onto a hard drive.”⁷⁰ A program must be used to extract a particular file and then export that file into a readable data file.⁷¹ Usually this process must be performed by an outside vendor.⁷²

[30] Another problem with backup tape data is that it can be duplicative. Because each backup tape is a snapshot of a server for a certain time period and not an incremental backup reflecting new material, information that was on the server and not erased will appear on the subsequent backup tape.⁷³ Duplicative information is burdensome because it must first be recognized as identical before it can be discarded. Software exits that can segregate identical e-mails to prevent duplication, but the more copies there are, the process of detecting and removing the copies will be longer.⁷⁴

[31] Erased, fragmented, or damaged data is the last inaccessible data format. “[F]ragmented data must be de-fragmented, and erased data must

⁶⁷ *Id.*

⁶⁸ *Zubulake*, 217 F.R.D. at 314 (discussing the requirement in UBS’s backup system of physically inserting the tapes into the machines).

⁶⁹ Henry Baltazar, *The Backup Battle Heats Up*, EWEEK.COM, June 30, 2003, <http://www.eweek.com/article2/0,1895,1142238,00.asp>.

⁷⁰ *Zubulake*, 217 F. R. D. at 314 (discussing the backup system used by UBS).

⁷¹ *Id.* at 314 (stating that UBS used a program called Double Mail “to extract a particular individual’s e-mail” from the backup system).

⁷² *Zublake v. UBS Warburg LLC*, 216 F.R.D. 280, 288 (S.D.N.Y. 2003).

⁷³ *Zubulake*, 217 F.R.D. at 319.

⁷⁴ *Quinby v. WestLB AG*, No. 04 Civ. 7406, 2005 U.S. Dist. LEXIS 35583, at *6 (S.D.N.Y. Dec. 15, 2005).

be reconstructed, all before the data is usable.”⁷⁵ Like the restoration of backup tape, this process can be quite expensive.

E) QUINBY V. WESTLB AG

[32] The question presented to the Southern District of New York in September of 2006 in *Quinby v. WestLB AG (Quinby II)* was whether the costs of electronically producing e-mails should be shifted to the plaintiff.⁷⁶ When an employee left the defendant’s company, it was the company’s policy to delete the employee’s e-mails from its accessible database and maintain them solely on inaccessible backup tapes.⁷⁷ The plaintiff’s e-mails were preserved on an accessible database, but the requested inaccessible e-mails were from the plaintiff’s former co-workers.⁷⁸ Plaintiff argued that cost-shifting was inappropriate because the defendant, pursuant to its obligation to preserve evidence, was required to maintain the requested e-mails in an accessible format.⁷⁹ Additionally, the plaintiff argued that because the defendant violated its duty of preservation, it could not seek to shift costs for restoring the e-mails from an inaccessible device.⁸⁰ The defendant argued that it satisfied its duty of preservation by storing the e-mails on backup tapes.⁸¹

[33] The court reasoned that:

[I]f a party creates its own burden or expense by converting into an inaccessible format data that it should have reasonably foreseen would be discoverable material at a time when it should have anticipated litigation, it should not then be entitled to shift the costs of restoring and searching the data.⁸²

⁷⁵ *Zubulake*, 217 F.R.D. at 320.

⁷⁶ *See Quinby v. WestLB AG*, No. 04 Civ. 7406 (WHP) (HBP), 2006 U.S. Dist. LEXIS 64531, at *23 (S.D.N.Y. September 5, 2006)

⁷⁷ *Id.* at *12.

⁷⁸ *See id.*

⁷⁹ *Id.* at *26.

⁸⁰ *Id.*

⁸¹ *Id.* at *23.

⁸² *Quinby*, 2006 U.S. Dist. LEXIS 64531, at *29.

The court did, however, apply the *Zubulake I* seven factor cost-shifting analysis for a set of e-mails of a former employee that the defendant could not have reasonably anticipated having to produce.⁸³ The court found all other e-mails which defendant should have reasonably anticipated having to produce were the financial responsibility of the defendant.⁸⁴ Taking that all into account, the court concluded that thirty percent of the costs of restoring and searching e-mails should be paid by the plaintiff.⁸⁵

IV. THE AMENDMENTS TO RULES OF CIVIL PROCEDURE

[34] With the aforementioned cases as a backdrop, save for *Quinby*, the Judicial Conference of the United States set about to rework the Rules to accommodate electronically stored discoverable information.⁸⁶ The Amendments to Rules 26 and 34 reflect the reality that so much of what is done in the world today does not exist on paper but in an electronic format.⁸⁷

A) CHANGES TO RULE 26

[35] The new Rule 26(a)(1)(B) includes “all documents, electronically stored information, and tangible things that are in the possession, custody, or control of the party.”⁸⁸ Although it is only a small alteration to Rule 26(a)(1)(B), it codifies the way in which the Rule was interpreted by courts regarding the discovery of electronically stored information.⁸⁹

[36] A major change to Rule 26 was the insertion of an entirely new section of the Rule creating a two tiered system differentiating between

⁸³ *See id.* at *35.

⁸⁴ *See id.* at *51.

⁸⁵ *Id.* at *52.

⁸⁶ *See* Thomas Y. Allman, *The Impact of the Proposed Federal E-Discovery Rules*, 12 RICH. J.L. & TECH. 13, 1 (2006), <http://law.richmond.edu/jolt/v12i4/article13.pdf>.

⁸⁷ Mohammad Iqbal, *The New Paradigms of E-Discovery and Cost-Shifting: Determining who Pays for Electronic Discovery*, DEF. COUNS. J., July 1, 2005 (“Today, the vast majority of documents exist in the form of emails, word processing documents, or spreadsheets [sic], and one estimate indicates that ninety-five percent of all documents are now created electronically.”).

⁸⁸ FED. R. CIV. P. 26(a)(1)(B).

⁸⁹ *See, e.g., Zubulake v. UBS Warburg*, 217 F.R.D. 309, 321 (S.D.N.Y. 2003) (*Zubulake I*).

“reasonably accessible” and “not reasonably accessible” information.⁹⁰
The new Rule 26(b)(2)(B) states:

A party need not provide discovery of electronically stored information from sources that the party identifies as not reasonably accessible because of undue burden or cost. On motion to compel discovery or for a protective order, the party from whom discovery is sought must show that the information is not reasonably accessible because of undue burden or cost. If that showing is made, the court may nonetheless order discovery from such sources if the requesting party shows good cause, considering the limitations of Rule 26(b)(2)(C). The court may specify conditions for discovery.⁹¹

This change is significant because it provides the producing party with an option to refuse to provide the information to the requesting party (i.e. data is not reasonably accessible because of undue burden or cost).

[37] Rule 26(b)(2)(C) remained unchanged, and tempers the aforementioned section by stating:

The frequency or extent of use of the discovery methods otherwise permitted under these rules . . . shall be limited by the court if it determines that . . . the burden or expense of the proposed discovery outweighs its likely benefit, taking into account the needs of the case, the amount in controversy, the parties’ resources, the importance of the issues at stake in the litigation, and the importance of the proposed discovery in resolving the issues.⁹²

Further, this section allows for the balancing of the costs versus the potential benefits of discovery.⁹³ For instance, the requesting party may still obtain the requested information by showing good cause.⁹⁴

⁹⁰ Withers, *supra* note 18, at 85-86.

⁹¹ FED. R. CIV. P. 26(b)(2)(B) (amended 2006).

⁹² Fed. R. Civ. P. 26(b)(2)(C)(iii).

⁹³ FED. R. CIV. P. 26 (amended 2006) (advisory comm. note).

B. CHANGES TO RULE 34

[38] The Amendment to Rule 34(a) states that a party may request “documents or electronically stored information . . . translated, if necessary, by the respondent into reasonably usable form . . . within the scope of Rule 26(b).”⁹⁵ The insertion of “electronically stored information” on equal footing with “documents” reflects how the Rule now accommodates advances in information technology since 1970.

V. WILL CONSTANTLY IMPROVING TECHNOLOGY INFLUENCE THE REASONABLENESS STANDARD?

[39] Electronic information storage and recovery, like many electronic platforms, constantly evolves and improves. Due to advances in electronic information storage technology, *Zubulake I*, decided in 2003, is somewhat dated today in terms of the court’s classification of accessible and inaccessible storage devices.⁹⁶ Accessible storage devices are now cheaper and easier to access than they were in 2003. Because of these advances, companies can store information in accessible devices for a extended periods of time before they archive the data to inaccessible formats “not reasonably accessible because of undue burden or cost.”⁹⁷ All stored electronic information relevant to litigation should be stored in an accessible, intelligible format which is readily usable during the discovery process. “Accessible” data devices have improved as optical storage is being replaced by cheaper, readily accessible AT Attachment (ATA) disks and virtual tapes.⁹⁸ “Inaccessible” backup tape is being replaced by cheaper, readily accessible alternatives such as online backup services, virtual tape, and network-attached storage (NAS).⁹⁹

⁹⁴ *Id.*

⁹⁵ FED. R. CIV. P. 34(a)(1).

⁹⁶ *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309 (S.D.N.Y. 2003).

⁹⁷ FED. R. CIV. P. 26(b)(2)(B).

⁹⁸ Shane O’Neill, *Users Ditch Optical for Faster Disk*, http://searchstorage.techtarget.com/originalContent/0,289142,sid5_gci1035649,00.html (last visited Mar. 18, 2007).

⁹⁹ See Salvatore Salamone, *Disks Spin an Alternative to Tape*, (March 4, 2004), <http://www.computerworld.com/securitytopics/security/recovery/story/0,10801,92899,00.html> (“For instance . . . Beyond Genomics Inc. found that the data it needed to back up had grown in size to a point where its high-performance tape systems could not accomplish the job in an acceptable time period.”); See S. Jae Yang, *Alternatives to*

[40] ATA disks and virtual tapes are near line data and an alternative to optical disk storage.¹⁰⁰ While ATA disks and virtual tapes store information sequentially (as opposed to randomly), the time to access information is much less than backup tapes, and faster than if the information was stored on optical disks.¹⁰¹ ATA disks and virtual tapes are also cheaper than optical disks.¹⁰² Parties need not convert data onto backup tapes as readily as they did before because additional ATA disks and tapes can be purchased for added near-line storage.

[41] Online backup services have become an expansive business since *Zubulake I* was decided, and are now the most popular alternative to backup tapes.¹⁰³ A huge variety of services exist, ranging from applications installed on users' laptops that use Google mailboxes for backup, to enterprise-oriented services.¹⁰⁴ Costs, based on the amount of data stored, vary greatly from nothing, to less than \$2 per GB per year, to \$25 per GB per month.¹⁰⁵

[42] Online backup systems have many advantages over backup tape. The first online backup could take awhile, but continued maintenance is much faster than traditional backup disks. Unlike backup discs, only new or changed files are uploaded to storage.¹⁰⁶ The user can set how often the

Backup Tape, PCMAG.COM, Mar. 3, 2003,
<http://www.pcmag.com/article2/0,1895,889902,00.asp>.

¹⁰⁰ O'Neill, *supra* note 98, at 16.

¹⁰¹ Claude Bouffard, *Comparing Disk-based and Tape-based Backup Methods*,
http://www.dell.com/content/topics/global.aspx/power/en/ps2q03_emc?c=us&cs=555&l=en&s=biz (last visited Mar. 19, 2007).

¹⁰² O'Neill, *supra* note 98, at 16.

¹⁰³ See Marc Saltzman, *More People Backing up Files in Virtual Vaults*, USA TODAY, Nov. 20, 2006, at 7B ("The only protection against losing critical information on your PC is to back up important files on a regular basis. This can be handled in a number of ways . . . [such as] an external hard drive, tape system or USB memory stick. One of the newest and increasingly popular solutions for consumers: uploading files to an online storage company.").

¹⁰⁴ Howard Marks, *The Global Glass House; Are Remote Servers-and the Data that Resides on them -Left out in the Cold? It's Time to Virtually Extend your Data Center*, NETWORK COMPUTING, NOV. 9, 2006, at S3.

¹⁰⁵ *Id.*; David Pogue, *Fewer Excuses for Not Doing a PC Backup*, N.Y. TIMES, Jan. 4, 2007, at C1.

¹⁰⁶ *See id.*

online backup occurs and never have to worry about the process again.¹⁰⁷ If backing up sensitive documents, data can be digitally encrypted during transit and when it is stored.¹⁰⁸ Furthermore, one can have access to files from any computer anywhere, and your files are safe even if disaster such as fire, flood or burglary should strike an office.¹⁰⁹

[43] Online backup systems are also much more flexible than backup tape. Conversion of data to an online system can be done from a laptop, workstation, server, network shares, or removable storage devices such as USB hard drives and memory keys.¹¹⁰ Conversion to backup tapes, however, can only be done from a party's server.¹¹¹ NAS is an example of a file storage device accessible through a network.¹¹² Like the aforementioned backup tape alternatives, NAS is cheaper and easier to access than backup tapes.¹¹³ NAS is hard disk based and set up with its own network address rather than being attached to the department

¹⁰⁷ Yang, *supra* note 99, at 16 (“[O]nce you’ve scheduled the backups, this once-periodic chore can largely be forgotten.”).

¹⁰⁸ See Kate Murphy, *In Case of Disaster, Have a Backup Plan for Your PC*, N.Y. TIMES, May 14, 2006, Sunday Money at 6 (“If backing up sensitive documents, consumers should ask whether their data will be digitally encrypted during transit and while stored at the online service.”); Marks, *supra* note 104 at 17 (“Some backup services, . . . encrypt data both in transit across the Internet and at rest on their servers.”).

¹⁰⁹ Pogue, *supra* note 105, at C1; see *How to . . . Shift the Firm’s Tech Budget Away From Investments in Hard/Software*, R. I. LAWS. WKLY, Jan. 22, 2007.

¹¹⁰ *Backup Online With Data Deposit Box (TM) for \$2/GB*, PRWEB, Jan. 15, 2007, <http://www.prweb.com>.

¹¹¹ See *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309, 314 (S.D.N.Y. 2003) (“To do so, UBS employs a program . . . which creates a “snapshot” of all e-mails that exist on a given server at the time the backup is taken.”); Carol L. Schlein, *Ounce of Prevention; Keeping your Computers Cool*, N.J. LAW, July 3, 2006 (“These backups should be saved to the server so they’re copied, in turn, onto backup tapes.”).

¹¹² Network-attached Storage, Definitions, SEARCHSTORAGE.COM, *available at* http://searchstorage.techtarget.com/sDefinition/0,,sid5_gci214410,00.html (last visited Jan. 10, 2007).

¹¹³ See Stan Gibson, *Presto, Storage!; Streamlined Tools Give Midmarket Companies New Powers to Set up and Run Network Storage Systems*, EWEK, Nov. 13, 2006, <http://www.eweek.com/article2/0,1895,2057986,00.asp> (“But, until now, only big companies have had the resources to come up with sophisticated backup schemes. No more. A wave of bigger, cheaper, faster and, above all, easier-to-use network storage products has hit the beach in recent months leaving the little guys with far more choices for storing, retrieving and backing up data than ever before.”).

computer serving applications to the network's workstation users.¹¹⁴ Set up this way, “both application programming and files can be served faster because they are not competing for the same processor resources.”¹¹⁵

A) WHEN IS IT UNREASONABLE TO STORE INFORMATION IN AN
INACCESSIBLE FORMAT?

[44] Backup tape is still very useful. It is the ideal method for large volume, long term storage,¹¹⁶ but companies can and should store data in cheap, efficient, and accessible formats for many years before it is necessary to convert the information to backup tape. While the Amendments do not require litigants to utilize accessible storage technology, keeping electronic information in accessible formats will decrease the cost-shifting analyses courts perform, further judicial economy, and make data available to a requesting party without “undue burden or cost.”¹¹⁷

[45] The change from backup tape storage to a cheaper, easily accessible format will not happen overnight. Companies can be slow to adapt to technology. The Committee note to Rule 26(b)(2), which states that some sources of electronically stored information can be accessed only with substantial burden and cost, is true.¹¹⁸ However, because accessible information alternatives are cheaper, more efficient, and widely available, parties should be required to store information in accessible formats. If parties decide to store electronic information in more expensive and less efficient inaccessible storage devices, then they should wholly foot the bill for retrieving and converting that inaccessible information. Cost-shifting should not occur when it is *unreasonable* to store information in inaccessible devices, and would be wiser to store the information in cheaper, more efficient accessible devices. Storing information in accessible formats will not only make the discovery process more efficient, but will help businesses who might need to access stored information for company use.

¹¹⁴ Network-attached Storage, *supra* note 112.

¹¹⁵ *Id.*

¹¹⁶ Freeman Reports: The Future of Tape, *available at* <http://www.freemanreports.com/pdf/QuantumHotTopic.pdf> (last visited March 19, 2007).

¹¹⁷ FED. R. CIV. P. 26(b)(2)(B).

¹¹⁸ FED. R. CIV. PRO 26B(2)(B), comm. n (2006).

[46] Courts have shifted the cost of production when the producing party should reasonably have foreseen litigation,¹¹⁹ or when it caused an undue burden on the producing party.¹²⁰ It remains to be seen whether a court will prohibit cost-shifting if a party did not reasonably anticipate litigation, but stored information in an inaccessible format when cheaper, more efficient accessible data storage methods exist. The drafters of the Amendments most likely foresaw this as an issue, as the Committee note to Rule 26(b)(2) states “it is not possible to define in a rule the different types of technological features that may affect the burdens and costs of accessing electronically stored information.”¹²¹ This analysis will need to be fact specific, including a consideration of whether the party reasonably anticipates frequent litigation (i.e. insurance, pharmaceutical, asset management companies). Also, the *Zubulake I* factors, or a version thereof, should be weighed.

[47] Considering this, *Zubulake I* factor five, “the relative ability of each party to control costs and its incentives to do so,”¹²² will probably become more important if courts hold companies to storing information in accessible formats. If a court finds that a producing party has a document retention policy in place that converts information to an inaccessible format too quickly, it should not engage in a cost-shifting analysis. This may occur in companies that anticipate frequent litigation, for they do not have an incentive to keep information in accessible formats. These companies will probably store information in an accessible format only for a short period of time. A court should weigh this factor against the producing party, against cost-shifting, and in line with the traditional legal principle that the producing party bears the cost of production.

B) HOW SHOULD *ZUBULAKE I* BE DECIDED TODAY?

[48] If *Zubulake I* was decided today, the application of a cost-shifting analysis, diverting expenses to the requesting party, might not be necessary. One can assume that in 2007, the availability of inexpensive,

¹¹⁹ *Quinby v. WestLB AG*, 04 Civ. 7406, 2006 U.S. Dist. LEXIS 64531, at *29 (S.D.N.Y. Sept. 5, 2006).

¹²⁰ *See Zubulake v. UBS Warburg LLC*, 216 F.R.D. 280, 288 (S.D.N.Y. 2003).

¹²¹ FED. R. CIV. P. 26, comm. n (2006).

¹²² *Zubulake v. Warburg LLC*, 217 F. R. D. 309, 322 (S.D.N.Y. 2003).

large and efficient accessible storage devices (hard drives, online backup, etc), should provide that all relevant e-mails be stored in an accessible format. The defendant in *Zubulake I* could have very easily stored internal e-mails on accessible optical disks, for all e-mail communications with persons outside of UBS Warburg LLC (UBS) were stored on optical disks throughout Zubulake's employment.¹²³ This is contrary to all internal e-mails, which were not stored on optical disk but rather converted to backup tape.¹²⁴ Zubulake was fired on October 9, 2001 and filed suit on February 15, 2002. Discovery commenced on or about June 3, 2002 when Zubulake served UBS with her first document request.¹²⁵ However, by the time the ruling in *Zubulake I* was decided on May 13, 2003, nineteen months after Zubulake was fired, UBS had converted the requested internal e-mails to an inaccessible format.¹²⁶ Was UBS's conversion of data from accessible storage to inaccessible storage too quick? Would it be proper for a court to rule that UBS converted it accessible information to an inaccessible format too quickly?

[49] If a modern court were to consider cost-shifting in a case similar to *Zubulake I*, shifting the cost of document production to the requesting party would seem inequitable and run afoul of the traditional legal principle that the producing party pays for production. In considering *Zubulake I* factor five (the relative ability of each party to control costs and its incentives to do so), a company like UBS has the ability to store information on cheaper, more efficient accessible devices. Because a court using the *Zubulake I* factors would only shift costs for inaccessible data storage formats, a company has an incentive to not store information on accessible devices, shifting some of the production costs to requesting party.

[50] If *Zubulake* was decided today, a court should hold that UBS's conversion of accessible e-mails to an inaccessible format was too quick given the circumstances and was done only to frustrate discovery. Thus, the court should order UBS to pay for the entire cost of production. As a defense, UBS, might claim its conversion of accessible internal e-mails to

¹²³ *Id.* at 314-15.

¹²⁴ *See id.* at 315 ("Internal e-mails, however, were not stored on this system.").

¹²⁵ *Id.* at 311.

¹²⁶ *Id.* at 311-312.

backup tape was a routine business practice, therefore justified.

C) ROUTINE BUSINESS PRACTICE

[51] When litigation was not foreseeable, parties might claim their conversion of accessible electronic information to an inaccessible format was a routine business practice, and was not performed in order to frustrate litigation and shift the costs of production to a requesting party. Courts have held that when a company should reasonably foresee litigation, and it converted pertinent electronic information into an inaccessible format, it will be responsible for the costs of production.¹²⁷ However, with no reasonably foreseeable litigation, a court has yet to order the producing party to pay for production because it converted its data to an inaccessible format too quickly. It will pose an interesting question to a court if and when a party claims that conversion of accessible data into an inaccessible format was part of its routine business practice. How much deference should a court give this defense? If courts do defer to a company's business judgment and routine business practice, it is likely that some of the costs of production will shift to the requesting party. This cost-shifting would contrast the traditional legal principle of a producing party paying for evidence production,¹²⁸ and in line with some of the cases which influenced the Amendments.¹²⁹

[52] The so called "safe harbor" provision added as part of the amendments to Rule 37(f) somewhat parallels a "routine business practice" defense.¹³⁰ Rule 37(f) does not address electronic information stored in an inaccessible format, just lost information.¹³¹ The rule states that "[a]bsent exceptional circumstances, a court may not impose sanctions . . . for failing to provide electronically stored information *lost* as a result of routine, good-faith operation of an electronic information

¹²⁷ *Quinby v. WestLB AG*, 04 Civ. 7406, 2006 U.S. Dist. LEXIS 64531, at *29 (S.D.N.Y. Sept. 5, 2006).

¹²⁸ *Oppenheimer Fund, Inc. v. Sanders*, 437 U.S. 340, 360-64 (1978).

¹²⁹ *See generally* *Rowe Entm't, Inc. v. William Morris Agency, Inc.*, 205 F.R.D. 421 (S.D.N.Y. 2002); *Zubulake v. UBS Warburg LLC*, 217 F.R.D. 309 (S.D.N.Y. 2003).

¹³⁰ Barbara Rabinovitz, *E-discovery Rules Signal New Era in Federal Practice*, MASS. LAWS. WKLY, Dec. 11, 2006.

¹³¹ FED. R. CIV. P. 37(f).

system.”¹³² Because the safe harbor provision does not address storage formats, courts will probably not impose sanctions on companies that have what should be accessible information in inaccessible formats when the party could not have reasonably anticipated litigation.¹³³ But as accessible electronic information storage devices (ATA disks, large hard drives, online backup services, etc.) become the norm, it remains to be seen how much cost-shifting occurs, if any, when a party decides to store discoverable information in an inaccessible format.

VI. CONCLUSION

[53] The 2006 Amendments to the Federal Rules of Civil Procedure accommodate the reality of the 21st century, that so much of today’s business and society is tied to information stored in electronic formats. The Amendments will, in the short term, continue to shift some of the costs of production to the requesting party because information is stored in inaccessible formats. Yet, as time passes, and parties adopt cheaper, more efficient, accessible storage methods, courts should perform less cost-shifting analyses, and hence cost-shifting to the requesting party should decrease. The definition of what is “reasonably accessible because of undue burden or cost”¹³⁴ should become stricter as cheaper, more efficient accessible electronic storage devices are adopted, or should be adopted.

[54] The Amendments currently provide a loophole for parties who cannot reasonably foresee litigation, but convert electronic information to inaccessible formats too quickly. Parties may claim the transfer of data to an inaccessible format was part of its ordinary course of business, and it is not in the province of the court to decide how and when this decision is to be made.

[55] However, as technology improves and the rules become stricter, companies should have a document retention policy in place so all relevant information is stored in an accessible format long enough to be produced without undue burden or cost. To store information on

¹³² *Id.* (emphasis added).

¹³³ *See* *Quinby v. WestLB AG*, 04 Civ. 7406, 2006 U.S. Dist. LEXIS 64531, at *24 (S.D.N.Y. Sept. 5, 2006).

¹³⁴ FED. R. CIV. P. 26(b)(2)(B).

inaccessible devices will only frustrate litigation and induce a cost-shifting analysis. If all discoverable information was stored in an accessible format, there would be very little, if any, cost-shifting analyses. In the end, the less cost-shifting analyses a court performs, the smoother the discovery and litigation process will be.